



Matters of the AAPI Heart

Shafi Mohamed M.D
Cardiothoracic Surgeon
Heart Surgery Center
Tallahassee Memorial Hospital



Introduction

- Asian Americans are the fastest growing racial/ethnic group in the United States representing 25% of all foreign born people.
- Asian Americans are classified into 7 sub groups. Asian Indian, Chinese, Japanese, Korean, Filipino, Vietnamese and Other Asian.
- Typical health surveys and questionnaires almost universally combine persons of Asian origin into one single group.
- In 2009 President of the United States signed a executive order to improve the the health of AAPI by highlighting the gaps in existing research on cardiovascular disease.



Center for Disease Control data - 2008

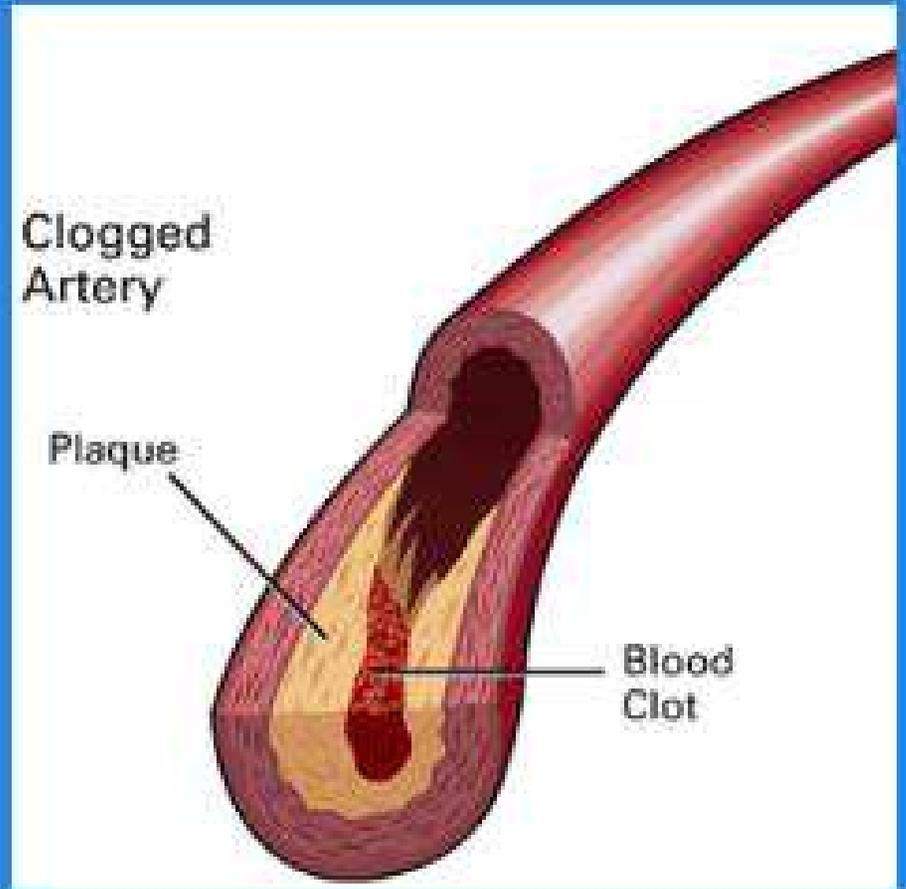
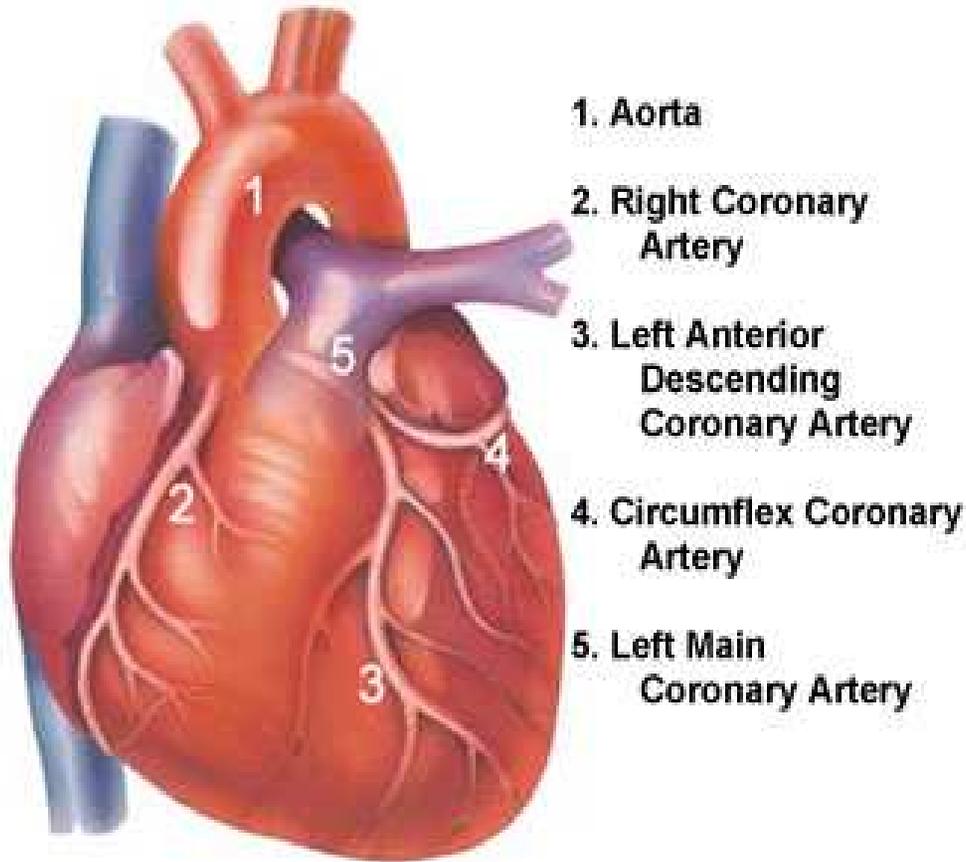
Race of Ethnic Group	% of Deaths
African Americans	24.5
American Indians or Alaska Natives	18.0
Asians or Pacific Islanders	23.2
Hispanics	20.8
Whites	25.1
All	25.0



Heart Disease (Coronary Artery Disease)

- Seven major consequences of heart disease:
 - Cardiac arrest
 - Sudden death
 - Stable angina
 - Unstable angina
 - Heart attack
 - Heart failure
 - Silent heart attack

Atherosclerosis





Cardiovascular Disease Incidence and Prevalance

- Substantial variability exists in cardiovascular risk and incidence of coronary artery disease
- AAPIs have longer “door to drug” times for acute interventions.
- Expected coronary artery bypass grafting mortality appears to be higher in Asian Americans than Caucasians.



Stroke

- Asian Americans have more severe stroke complications than Caucasians.
- Chinese Americans were found to have more hemorrhagic strokes as well as a higher prevalence of poorly controlled hypertension when compared with Caucasians.
- Stroke prevalence has been reported to decrease with duration of residence in United States among Japanese and Chinese immigrants.



Traditional Risk factors

- Genetics
- Blood pressure
- Cholesterol
- Smoking
- Diabetes
- Health habits



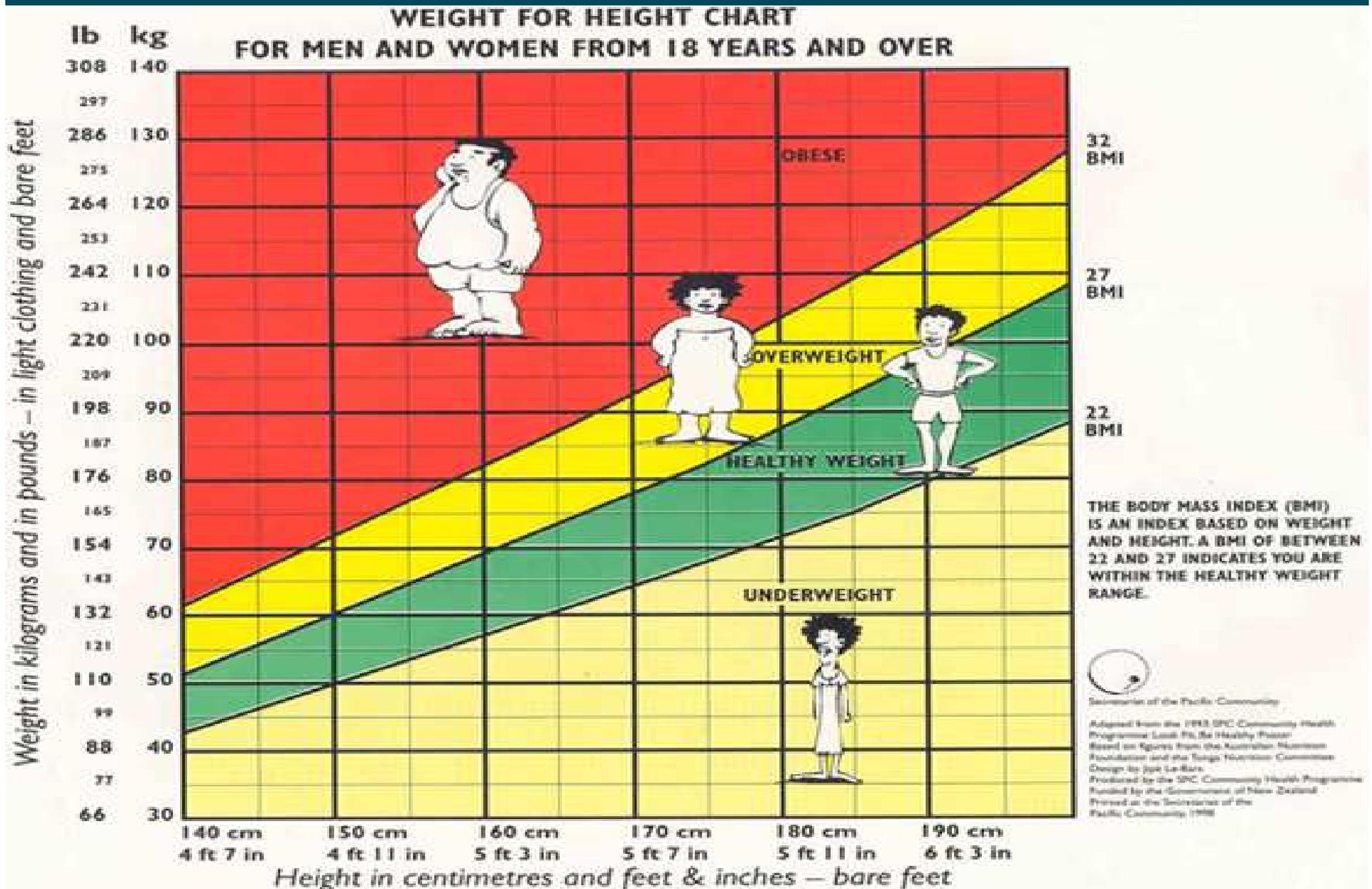
- Hypertension rates are higher in Filipino Americans.
- High cholesterol rates in aggregated Asian Americans are similar to the general U.S population.
- Japanese Americans have higher total cholesterol due to higher high density lipoprotein cholesterol concentration.
- Smoking prevalence is higher in Korean, Filipino and Vietnamese male population.
- Diabetes rates are higher among Asian Indians.



Insulin resistance/Type 2 diabetes

- Type 2 diabetes is a risk factor that is especially prevalent among Asian Indians.
- Higher prevalence of metabolic syndrome among Filipino and Japanese population.
- Due to higher visceral fat distribution among Filipino and Asian Indians.

Body Mass Index= Kg/meter²





Differential Body Fat Distribution

- Chinese and Asian Indians have lower BMI compared with whites with similar body frames.
- WHO has made recommendations to lower BMI cut points for Asian Americans.
- A great portion of body fat for Asian Americans is distributed centrally in metabolically more visceral deposits.
- Other measures include waist circumference, waist to hip and trunk to total height distribution.



Treatment Options

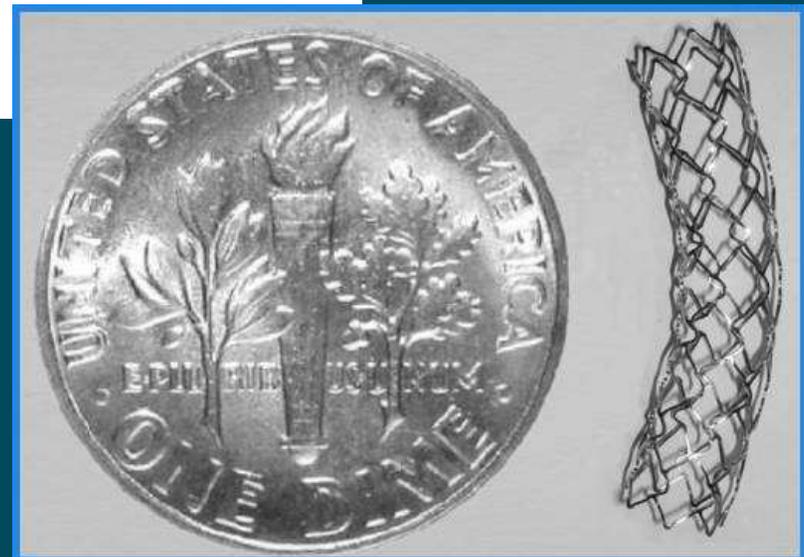
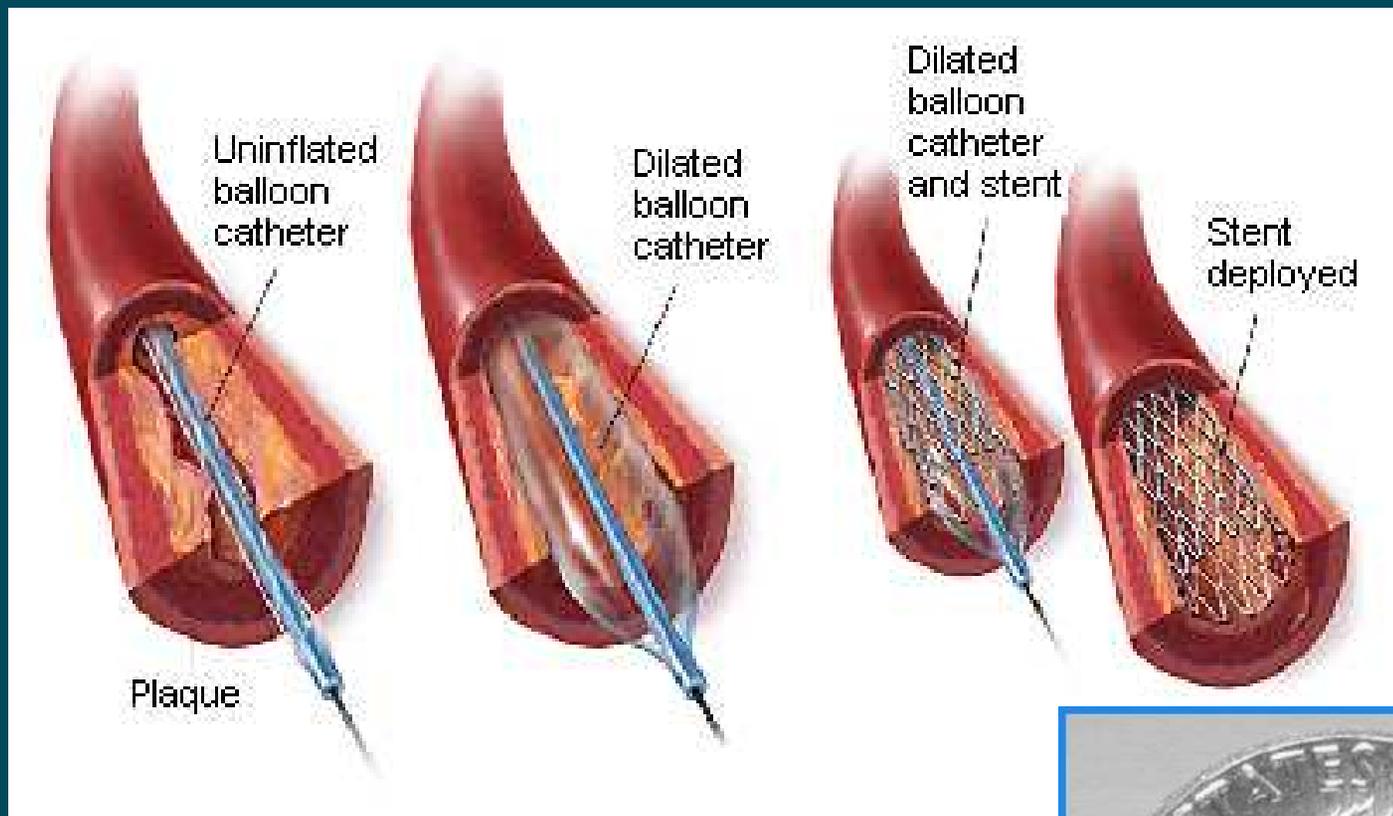
- Medications
 - Aspirin and Plavix
 - Blood pressure
 - Diabetes
 - Cholesterol
 - Blood thinners
- Angioplasty and stent placement
- Coronary artery bypass grafting(CABG)



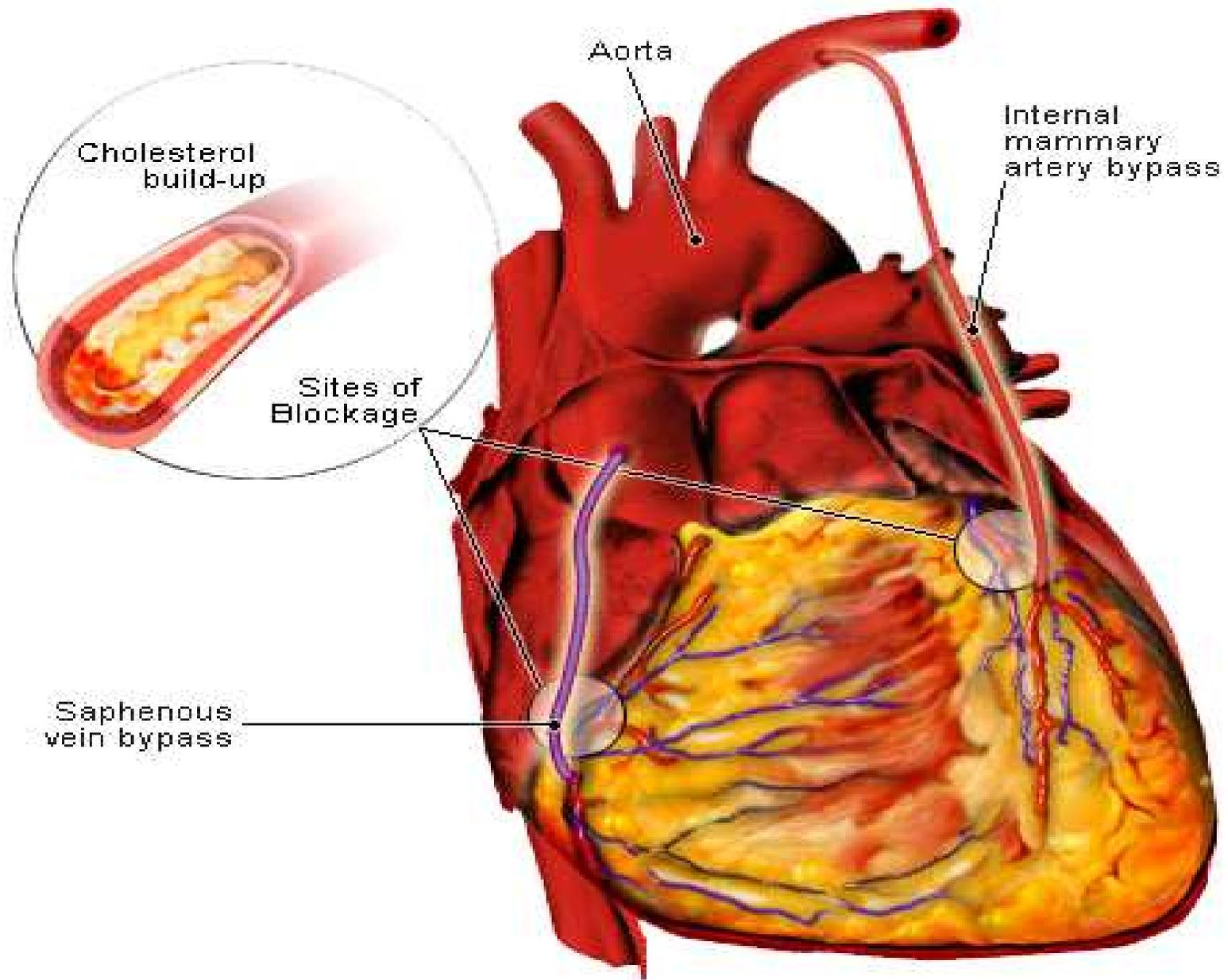
Medication effects

- Differences in therapeutic drug response.
- Chinese patients respond to blood pressure medications more than their white counterparts
- Asian Indians require higher doses of blood thinner than Chinese
- Chinese and Japanese have high sensitivity and Asian Indians demonstrate intermediate sensitivity to cholesterol medications compared with non Hispanic whites.

Angioplasty stents



Coronary Artery Bypass





Coronary Artery Disease

- Higher rates of hospitalization for Ischemic heart disease have been shown in Asian Indians (RR=3.7) and lower rates in Chinese (RR=0.6)
- Male Asian Americans less likely to undergo PCI and more likely to undergo CABG than Caucasians.
- Expected rate of CABG mortality higher in Asian Americans.
- Significant mortality in younger Asian Indian population compared with other racial/ethnic groups



Diet-East Asian

- Lower in total and saturated fats
- Less animal protein
- Rice
- Vegetables
- Tea
- Garlic
- Red yeast rice
- Sodium



Diet-Asian Indian

- Saturated fats
- Clarified butter
- Hydrogenated oils
- Coconut products
- Refined Carbohydrates



Acculturation and health behaviors

- The process by which a foreign born person adopts the values, customs and behaviors of their new environment.
- CAD and stroke mortality rates in Hawaii were intermediate between high stroke rates in Japan and high heart attacks in California which goes along with blood pressure and cholesterol levels.

-The Ni-Hon-San study





Risk factor trends

- Recent Chinese immigrants report healthier diet and physical activity than those resided in United States > 10 years
- Chinese men don't adhere to taking blood pressure medications the longer their length of stay in US
- US life style is associated with more physical activity among Korean Americans but with less physical activity among Japanese Americans.
- Alcohol abstinence rates are variable – Vietnamese at 68%, Japanese at 37% and Asian Indian at 56%.
- Among the Korean Americans men smoked less and women smoked more
- Men had higher BMI and women did not.



Naturoceutical Products

- Soy protein and iso-flavones lower cholesterol
- Fatty fish -salmon and mackerel rich in omega-3 fatty acids
- Seafood consumption is higher in Asian Americans compared to US general population
- The fish consumption decreased among subsequent generations
- Red yeast rice extract showed positive effects on all the components of cholesterol

Red yeast rice





Naturoceutical Products

- Black tea has positive effects on cholesterol and blood pressure
- Green tea has flavonoids which are anti-oxidants, anti inflammatory and anti thrombogenic
- More than 7 cups of green tea/day lowers the incidence of stroke
- Moderate drinking reduces atherosclerosis



Physical Inactivity

- Physical inactivity is reported more among Asian Americans than Whites, Hispanics and African Americans
- Higher prevalence of obesity, insulin resistance and hypertension
- Intervention studies suggest CVD risk factors can be favorably modified.



Emerging risk factors

- Lipoprotein Lp(a) is an independent risk factor for CVD.
- Higher Lp(a) levels have been reported in Asian Indians compared with other Asian populations and whites.
- Coronary Artery Calcification: Asian Indians had higher median CAC scores compared with whites.
- Chinese Americans had lower CAC scores than non-Hispanic whites, but higher scores than Hispanics and blacks.
- Genetics



What can you do for a Healthy Heart?

- Genetics ???
- Blood pressure
- Cholesterol
- Smoking
- Diabetes
- Health habits

Thank you!